

Assignment=20

Pointers in c Language

1. Write a program to swap two numbers using pointers.

```
#include <stdio.h>
int swap(int *, int *);
int main()
{
    int x,y;
    printf("\nEnter Two Numbers :");
    scanf("%d%d",&x,&y);
    swap(&x,&y);
    printf("x= %d and y is %d",x,y);
    return 0;
}
int swap(int *ptr,int *ptr1)
{
    int temp;
    temp=*ptr;
    *ptr=*ptr1;
    *ptr1=temp;
} */
```

2. Write a program to swap two strings using pointers.

```
#include <stdio.h>
void swap(char **,char **);
int main()
{
    char *str="abhay raj",*str1="giri";int i;
    // printf("\nEnter Two strings :");
    swap(&str,&str1);
    printf("str= %s and y is %s",str,str1);
    return 0;
}
void swap(char **ptr,char **ptr1)
{
    char *temp=*ptr;
    *ptr=*ptr1;
    *ptr1=temp;
}
/*
```

3. write a program to sort an array of print type value

```
#include <stdio.h>
void sort(int *ptr,int size);
int main()
{
    int arr[10],n,i,j;
```

```

        printf("\nEnter Size of an array:");
        scanf("%d",&n);
        for(i=0;i<n;i++)
        {
            scanf("%d",&arr[i]);
        }
        sort(arr,n);
        return 0;
    }
    void sort(int *ptr,int size)
    {
        int temp,i,j;
        for(i=0;i<size;i++)
        {
            for(j=i+1;j<size;j++)
            {
                if(*(ptr+i) > *(ptr+j))
                {
                    temp=*(ptr+j);
                    *(ptr+j)=*(ptr+i);
                    *(ptr+i)=temp;
                }
            }
        }
        printf("After Sorting :\n");
        for(i=0;i<size;i++)
        printf("%d\n",*(ptr+i));
    }
}

```

4. Write a program to demonstrate how to handle the pointers in c.

```

#include <stdio.h>
int main()
{
    int x=90,*ptr;int arr[10],a=4,b=5,c=10,d=109,i,*ptr1[4],(*k)[4],ab[5][4];
    ptr=&x;
    // ptr==&x , *ptr==x like;
    printf("%d %d %d %d",&x,ptr,x,*ptr);
    printf("\nEnter Numbrs:");
    // pointer use in an array
    /*for(i=0;i<10;i++)
    {
        scanf("%d",arr+i);
    }
    for(i=0;i<10;i++)
    {
        printf("\n%d",*(arr+i));
    }
    //Array of pointer.

```

```

ptr1[0]=&a;
ptr1[1]=&b;
ptr1[2]=&c;
ptr1[3]=&d;
for(i=0;i<4;i++)
printf("%d\n",**(ptr1+i)); /*
//pointer to an array;
k=ab;
*(k+2)[2]=10;
*(*(k+3)+2)=123;
k[2][1]=150;
printf("%d %d %d",*(k+2)[2],*(*(k+3)+2),k[2][1]);
}

```

5. write a program to find the maximum number b/w two numbers.

```

#include <stdio.h>
int main()
{
    int *ptr,*ptr1;int x,y;
    printf("\nEnter numbers :");
    scanf("%d%d",&x,&y);
    ptr=&x;
    ptr1=&y;
    if(*ptr>*ptr1)
    printf("%d is maximum",*ptr);
    else
    printf("%d is maximum",*ptr1);
}

```

6. Write a program to length of the string using a pointer:

```

#include <stdio.h>
int main()
{
    char str[20];int count=0,i;
    char *str1;
    printf("\nEnter String:");
    fgets(str,20,stdin);
    str1=str;
    for(i=0;*(str1+i)!=NULL;i++)
    {
        count++;
    }
    printf("\nlength is %d",--count);
}

```

7. Write a program to count a number of vowels and constant in a string using pointers

```
#include <stdio.h>
int main()
{
    char *ptr;char str[30];int vowel=0,count=0,i,l;
    printf("\nEnter a String :");
    fgets(str,30,stdin);
    l=strlen(str);
    l--;
    ptr=str;
    for(i=0;i<l;i++)
    {
        if(*(ptr+i)=='a'
||*(ptr+i)=='e' ||*(ptr+i)=='i' ||*(ptr+i)=='o' ||*(ptr+i)=='u' ||*(ptr+i)=='A'
||*(ptr+i)=='E' ||*(ptr+i)=='I' ||*(ptr+i)=='O' ||*(ptr+i)=='U')
        {
            vowel ++;
        }
        else if(*(ptr+i)==' ')
        {

        }
        else
            count++;
    }
    printf("vowels is %d and constant is %d",vowel,count);
}
```

8. Write a program to compute all the sum of an element present in the array using pointer.

```
#include <stdio.h>
int main()
{
    int arr[20],sum=0,n,i;
    printf("\nEnter Size of An array :");
    scanf("%d",&n);
    for(i=0;i<n;i++)
    {
        scanf("%d",arr+i);
    }
    for(i=0;i<n;i++)
    {
        sum+=*(arr+i);
    }
    printf("\nSum is %d",sum);
}
```

9. write a program to print Element of an array in revers order.

```

#include <stdio.h>
int main()
{
    int arr[20],sum=0,n,i;
    printf("\nEnter Size of An array :");
    scanf("%d",&n);
    for(i=0;i<n;i++)
    {
        scanf("%d",arr+i);
    }
    printf("After reversing :\n");
    for(i=n-1;i>=0;i--)
    {
        printf("%d\n",*(arr+i));
    }
}

```

10. Write a program to print string in reverse order using pointers

```

#include <stdio.h>
int main()
{
    char str[20];int i,l;
    printf("\nEnter string:");
    fgets(str,20,stdin);
    l=strlen(str);
    l--;
    for(i=l-1;i>=0;i--)
    {
        printf("%c",*(str+i));
    }
}*/

```